



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/376,173	08/17/1999	ALAN L. TAYLOR	1956/123	6112

2101 7590 05/22/2003
BROMBERG & SUNSTEIN LLP
125 SUMMER STREET
BOSTON, MA 02110-1618

EXAMINER

ZHEN, LI B

ART UNIT PAPER NUMBER

2126

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/376,173

Applicant(s)

TAYLOR ET AL.

Examiner

Li B. Zhen

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7 – 10, 16 – 21 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,226,666 to Chang.

As to claim 1, Chang teaches (column 5, lines 55 – 67; column 7, lines 22 – 50; column 8, lines 8 – 11; column 9, lines 47 – 57; column 10, lines 55 – 67; column 15, lines 39 – 46) a device (distributed computer system 8, Fig. 1) comprising a message passing service (communication infrastructure, 210 – 230, Fig. 2) for providing communication services between a client (sender, Fig. 3) application and a target (receiver, Fig. 4) application (asynchronous and synchronous message passing between Java objects, whether they are local or remote to each other), wherein the message passing service comprises:

application blocking logic (synchronous mode of Request/Response Messaging) operably coupled to block and unblock the client application (the user waits for the result until the result arrives, 2410 Fig. 24) for supporting synchronous communication services for the client application; and

asynchronous signaling logic (agent manager is aware of an agent's whereabouts...can cause appropriate message forwarding to the current location of an agent) operably coupled to notify (mail queue provides the store and forward...capabilities to support asynchronous ...operations) the client application of asynchronous events (event messages) for supporting asynchronous communication services for the client application (Message Facility Layer 220 allows for asynchronous and synchronous message passing...event messages...are asynchronous in nature, Fig. 2).

As to claim 10, this is a product claim that corresponds to apparatus claim 1; note the rejection to claim 1 above, which also meets this product claim.

As to claim 27, this is a system claim that corresponds to apparatus claim 1; note the rejection to claim 1 above, which also meets this system claim.

As to claims 7 and 16, Chang teaches (column 7, lines 21 – 36) a "callback" routine (message handler) that is provided to the message passing service by the client application (Message Facility Layer 220 uses the Mail Facility Layer 210 for sending messages...allows for the association of typed message handlers with typed messages such that the format and semantics of messages are encapsulated through their types...and can be processed by the associated message handlers, Fig. 2).

As to claims 8 and 17, Chang teaches (column 14, line 62 – column 15, line 19) the asynchronous signaling logic is operably coupled to invoke the "callback" routine when an asynchronous event is available for the client application (handler handles the message and generates a result 2100, Fig. 21).

As to claim 9, Chang teaches (column 6, lines 10 – 21) the device is a storage processor (computer system 8 may also include multiple mainframe computers...coupled to a storage device 20 which may serve as remote storage) for operation in a storage unit (storage device 20, Fig. 1).

As to claim 18, Chang teaches (column 6, lines 10 – 21; column 9, lines 47 – 58; column 10, lines 10 – 22; column 15, lines 30 – 46) a computer system (distributed computer system 8, Fig. 1) having a plurality of interconnected processors (multiple mainframe computers 18, Fig. 1), a message passing method for providing synchronous communication services (Message Facility Layer 220 allows from asynchronous message passing, Fig. 2) between a client application (sender, Fig. 3) running on one processor and a target application (receiver, Fig. 4) running on another processor, the message passing method comprising:

receiving from the client application a request for a synchronous communication service (user creates a message 605 and then calls send() which creates a mail 610, Fig. 6), blocking the client application (user waits), completing the requested synchronous communication service and unblocking the client application (user waits for the result until the result arrives).

As to claim 19, Chang teaches (column 6, lines 10 – 21; column 9, lines 47 – 58; column 10, lines 10 – 22; column 15, lines 30 – 46) receiving a request from the client application for sending a synchronous message to the target application (user creates a message 605 and then calls send() which creates a mail 610, Fig. 6), blocking the client application (user waits), sending the synchronous message to the target application

(message 605 puts the mail 610 in the virtual mailbox 615 which causes the Mail Facility Layer 210 to deliver the message 605 to the destination 625, Fig. 6), receiving a confirmation from the target application (result arrives), and unblocking the client application (user waits for the result until the result arrives).

As to claim 20, Chang teaches (column 15, lines 30 – 45) receiving a request from the client application for receiving a synchronous message from the target application (user first checks if the result has arrived, process block 2310, Fig. 23), determining whether a received message is available for the client application (the user determines if a the result has arrived, decision block 2320, Fig. 23), and blocking the client application, if the received message is unavailable (if the result has not arrived, then the user can repeat process block 2310 and decision block 2320 at a later time, Fig. 23).

As to claim 21, Chang teaches (column 15, lines 30 – 45) receiving a synchronous message for the client application from the target application (if the result has arrived), unblocking the client application, and passing the synchronous message to the client application (if the result has arrived, then the user gets the result, process block 2330, Fig. 23).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 – 6, 11 – 15, and 22 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of U.S. Patent No. 6,401,109 to Heiney.

As to claims 2 and 11, Chang teaches (column 7, lines 22 – 36; column 9, lines 47 – 57; column 15, lines 40 – 45) synchronous message passing logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2) operably coupled to provide synchronous communication services for the client application using the application blocking logic (synchronous mode of Request/Response Messaging...the user waits for the result until the result arrives); and

asynchronous message passing logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2; Mail Facility Layer 210 provides an asynchronous mail delivery service, Fig. 2) operably coupled to provide asynchronous communication services for the client application using the asynchronous signaling logic (agent manager). Chang does not specify session control logic to open and close a message passing service session.

However, Heiney teaches (column 8, line 50 – column 9, line 5) session control logic to open (virtual socket session is instantiated, step 93, Fig. 9) a message passing service session. As to closing a session, the session would obviously be close when communication is finished.

It would have been obvious to apply the teaching of session control logic to open and close a message passing service session as taught by Heiney to the invention of Chang because a virtual socket allows data to pass from one process to another (column 1, lines 39 – 49 of Heiney).

As to claims 3 and 12, Chang as modified teaches (column 7, lines 22 – 50; column 9, lines 47 – 57; column 15, lines 39 – 46 of Chang) the synchronous message passing logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2) comprises synchronous message sending logic operably coupled to block (user waits) the client application using the application blocking logic upon sending a synchronous message to the target application over the message passing service session and unblock the client application (user waits for the result until the result arrives) using the application blocking logic upon receiving a confirmation from the target application over the message passing service session (synchronous mode of Request/Response Messaging...the user waits for the result until the result arrives).

As to claims 4 and 13, Chang as modified teaches (column 7, lines 20 – 50; column 15, lines 29 – 46 of Chang) the synchronous message passing logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2) comprises synchronous message receiving logic operably coupled to block the client application using the application blocking logic (delay or other processing 2340, Fig. 23) if a synchronous message is unavailable for the client application (if the result has not arrived, then the user can repeat process block 2310 and decision block 2320 at a later time, Fig. 23).

As to claims 5 and 14, Chang as modified teaches (column 7, lines 20 – 50; column 15, lines 29 – 46 of Chang) the synchronous message receiving logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2)

is operably coupled to unblock the client application using the application blocking logic upon receiving a synchronous message (if the result has arrived, then the user gets the result, process block 2330, Fig. 23) for the client application from the target application over the message passing service session (the user first checks if the result has arrived, process block 2310...the user determines if a the result has arrived, decision block 2320, and if the result has arrived, then the user gets the result, process block 2330, Fig. 23).

As to claims 6 and 15, Chang as modified teaches (column 7, lines 22 – 36; column 8, lines 8 – 11; column 9, lines 47 – 57; column 11, lines 40 – 65 of Chang) the asynchronous message passing logic (Message Facility Layer 220 allows for asynchronous and synchronous message passing, Fig. 2) comprises asynchronous message sending logic operably coupled to send (mail queue provides the store and forward...capabilities to support asynchronous ...operations) an asynchronous message to the target application (Message Facility Layer 220 allows for asynchronous and synchronous message passing...event messages...are asynchronous in nature, Fig. 2) and notify the client application via the asynchronous signaling logic upon receiving a confirmation (user may also set a response destination for the mail 305 so that a reply may be returned to that destination or so that the mail 305 can be returned, Fig. 3) from the target application over the message passing service session.

As to claim 22, Chang teaches (column 5, lines 55 – 67; column 6, lines 10 – 21; column 7, lines 22 – 50; column 8, lines 8 – 11; column 9, lines 47 – 58; column 10, lines 10 – 22; column 11, line 40 – column 12, line 7) a computer system (distributed

computer system 8, Fig. 1) having a plurality of interconnected processors (multiple mainframe computers 18, Fig. 1), a message passing method for providing asynchronous communication services (Message Facility Layer 220 allows from asynchronous message passing, Fig. 2) between a client application (sender, Fig. 3) running on one processor and a target application (receiver, Fig. 4) running on another processor, the message passing method comprising:

receiving a request from the client application for sending an asynchronous message to the target application (user creates a mail specifying the type of content 810 and user puts the mail in the mailbox 840, Fig. 8);

sending the asynchronous message to the target application over the session (mailbox sends the mail through the local main post office 930, Fig. 9);

receiving a confirmation from the target application over the session (mail queue provides the store and forward...capabilities to support asynchronous ...operations) and notifying the client application using an asynchronous signaling mechanism (agent manager is aware of an agent's whereabouts...can cause appropriate message forwarding to the current location of an agent).

As to a session between the client application and the target application, see the rejection to claim 2 above.

As to claim 23, see the rejection to claims 7 and 16 above.

As to claim 24, see the rejection to claims 8 and 17 above.

As to claim 25, Chang teaches (column 8, lines 5 – 20; column 10, lines 55 – 67) receiving an asynchronous message from the target application (mail queue provides

the store and forward... capabilities to support asynchronous ... operations), and notifying the client application using the asynchronous signaling mechanism (agent manager is aware of an agent's whereabouts... can cause appropriate message forwarding to the current location of an agent).

As to claims 26, Chang teaches (column 10, lines 55 – 67) notifying the client application using the asynchronous signaling mechanism (agent manager is aware of an agent's whereabouts... can cause appropriate message forwarding to the current location of an agent). As to closing the session, see the rejection to claim 2 above.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,561,809 to Elko teaches communicating synchronous and asynchronous between processors in a multiprocessing system.

U.S. Patent No. 5,434,975 to Allen teaches interconnecting a synchronous path having semaphores and an asynchronous path having queuing for interprocess communications.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8am - 4:30pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Art Unit: 2126

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Li B. Zhen
Examiner
Art Unit 2126

lbz
May 12, 2003

Suehao